



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:

JOHNSON, GRAHAM

Application No.: 09/974,042

Filing Date: 10/10/01

For: MOBILE COMMUNICATIONS
DEVICE CONTROL

Art Unit: UNKNOWN

GP/2681

H3
12/11/01
MB

TRANSMITTAL OF PRIORITY DOCUMENT

Director for Patents and Trademarks
Washington, D.C. 20231

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Enclosed herewith is a certified copy of British Patent Application No. 0026052.1
for which the above-identified patent application claims priority from.

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undersigned as soon as possible.

Respectfully Submitted

HEAD, JOHNSON & KACHIGIAN

Date: 11/02/01

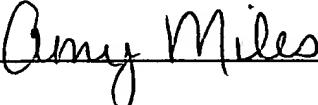
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1. Your reference

GW-G30596

2. Patent application number

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0026052.1

24 OCT 2000

3. Full name, address and postcode of the or of each applicant (underline all surnames)

Pace Micro Technology Plc

Victoria Road
Saltaire
Shipley
BD18 3LF

England

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

4. Title of the invention

Mobile Telephone Control

5. Name of your agent (if you have one)

Bailey Walsh & Co.

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

5, York Place
Leeds
LS1 2SD

Patents ADP number (if you know it)

224001

6. If you are declaring priority from one or more earlier patent applications, give the and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

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(if you know it)Date of filing
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7. If this application is divided or otherwise derived from an earlier UK application, the earlier application

Number of earlier application

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8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer "Yes" if:

Yes

- a) any applicant named in part 3 is not an inventor, or
- b) there is an inventor who is not named as an applicant, or
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Description 6

Claim(s)

Abstract

Drawing(s)

1 x 1 fl.

10. If you are also filing any of the following, state how many of each item.

Priority Documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (Patents Form 7/77)

Request for preliminary examination and search (Patents Form 9/77)

Request for substantive examination (Patents Form 10/77)

Any other documents (Please specify)

11.

I/We request the grant of a patent on the basis of this application

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Date

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Mobile Telephone Control

The invention to which this application relates is a system and control means for the control of operation of communication devices such as mobile telephones within a specified or determinable area. By providing for the control of the operation of mobile phone handsets within a determinable area, so the control can be used to, for example, silence mobile phone ringing tones, prevent the operation of the mobile phone completely or change the operation of any other function which may be desired to be controlled within a particular area.

The increase in use of mobile telephone handsets has been accelerating rapidly and, whilst the use of the mobile telephone handset is of considerable advantage to users of the same, the operation of the phone can, in several instances, be irritating to other persons in the vicinity of the mobile phone and/or be of considerable danger to other persons within the vicinity of the mobile phone depending on the area and/or environment in which the mobile phone is in use.

Dealing with the irritation which can be caused by users, this is frequently the case when the mobile telephone is used in areas which are communal in nature such as, for example, train carriages, cinemas, theatre, football stadium and the like. In these cases, the irritation is most typically caused by a mobile phone receiving an incoming call which causes the mobile phone to ring and it is the ringing of the mobile phone and, in many instances the subsequent conversation which ensues, which causes the irritation. If, for example, in a railway carriage, a person is sleeping and a mobile phone rings, this may awake the person and irritate the same. In other environments such as the cinema or theatre, the ringing of the mobile phone can be distracting and cause other persons in the cinema or theatre to

miss an important part of the film or play or can, in the case of a theatre, distract the actors.

In a second area of use, such as for example, petrol stations, surgical theatres, or hospitals in general, planes and the like, the use of the mobile phone can be a greater problem than merely causing irritation and can in fact cause danger. In terms of petrol stations, there is a risk of explosion, in terms of hospitals, there is a danger of an adverse effect on the operation of equipment and apparatus which may be controlling and/or in use in relation to the health of patients in a hospital, and in a plane, the use of the mobile phone may adversely affect the control systems for the flight of the plane.

Increasingly, many forms of mobile phone include or can be fitted with, a communication means which allows the reception of data signals without physical connection with the signals emitted from a location within a certain area or distance from the receiver. One such system is called Bluetooth (Registered Trade Mark) which allows the transmission and reception of signals between a signal emitter or beacon and devices which are fitted with a receiving device and which devices are within a specified area relating to the location of the beacon. The normal purpose of this system is to allow communication between, for example, a beacon and a control system for fixed applications within a premises, so as to allow the control of the apparatus.

The aim of the present invention is to provide a means for controlling the operation of a mobile phone or other transportable or mobile communication means within a specified area so as to enable the disablement of a particular function or functions of the mobile phone while in said area.

In a first aspect of the invention there is provided a mobile communications device, said device capable of receiving and transmitting data in the form of calls or messages and wherein said device is provided with a means for receiving a signal from a location, processing the signal, and altering the operating condition of the device in accordance with the received signal and characterised in that the signal operated from said location is effective within a localised, determinable area of said location so as to provide a localised controlling effect on the operation of the device.

In one embodiment, the signal which is emitted, when received, causes a function or functions of the mobile device to be disabled. In one example, the ringing function of a mobile phone is disabled such that if the mobile phone receives any incoming calls while within the determinable area, no ringing tone will be emitted by the mobile phone.

In another form of control, and more particularly where the use of the mobile device can be deemed to be a danger, such as for example in a plane, hospital, or petrol station, the signal which is emitted from the said location causes the mobile phone to be disabled from receiving or being used to transmit incoming or outgoing calls, thus disabling the mobile phone from use while the same is in the determinable area.

In one embodiment, the mobile phone is provided with a signal receiving device in the form of a Bluetooth signal receiver and at the location from which the signal is emitted, a Bluetooth signal emitter is located so as to provide a signal which can be transmitted throughout the determinable area. Typically the signal emitter is configured so as to emit only one type of signal uniformly throughout constant operation, or at least throughout operation during a defined period.

In one embodiment, rather than the signal being transmitted continuously, the signal is emitted at regular intervals such that, if a mobile device receives a signal it is then disabled for a set period of time and if it then receives a further signal within the period of time it is disabled for a further period of time thereafter, and so on until a signal is no longer received in a predetermined period of time whereupon the mobile device is returned to normal operating conditions.

The strength of the signal which is emitted from the location can be determined and set at the time of installation following testing on site and in accordance with certain parameters such as the area throughout which the effect of the signal is required, the environment in which the signal is to be used such as externally, internally, whether any walls are present within the area, and so on and may also be configured in relation to potential hazards within the said environment so that the signal itself does not adversely affect the operation of other apparatus, or pose a risk.

Typically, in addition to receiving the signal, the receiving device within the mobile device will also cause the mobile device to move to a predetermined mode of operation such as silent or discreet, so that the device will also perform a controlling effect on the mobile device operation.

Reference above and hereonin to mobile phones should also be read as covering other forms of communication devices such as pagers, electronic diaries, electronic organisers and other forms of wireless or cordless telecommunications apparatus.

A specific embodiment of the invention is now described with reference to the accompanying drawing, wherein:-

Figure 1 illustrates a plan view of the invention in operation.

In accordance with the invention, a signal emitting location 2 is determined with reference to a particular environment, in this case, in the form of a petrol station. Thus, a signal is emitted from the location 2 continuously or at regular time intervals and said signal is emitted so that it is of a strength and direction to cover the required area of the petrol station and is indicated in the Figure 1 by broken lines, such that the area 8 within the broken line is an area in which the signal which is emitted has effect.

Thus, upon approaching a petrol station, a driver of a car 4 with a mobile phone therein, will find that they can use their mobile phone in a normal manner as they approach the petrol station as indicated. However, as they enter the area 8 which is defined by the broken line, as has the user of the car 6 already, a receiving device within the mobile phone in the car picks up and receives the signal which is emitted from the location 2. This signal is configured such that when processed by the mobile phone receiver, it causes the mobile phone to enter a mode of operation which is defined by the configuration of the signal. As the operation of a mobile telephone within a petrol station forecourt environment is hazardous, the particular condition in this case is for the mobile phone to be inoperable so that no incoming or outgoing telephone calls can be made.

Thus, for the duration of the mobile being within the area 8 defined by the broken line, i.e. for the duration of filling the car with petrol, paying for the petrol and driving away from the petrol pump, the mobile phone will not be usable, hence

meeting and enforcing the warning requirements which are typically displayed in petrol station forecourts.

As the car 4 and mobile phone leaves the area 8, the mobile phone will continue to search for the signal and if no such signal is received within a predetermined time, say for example 30 seconds, the phone will revert to a normal operating condition, whereupon the same can be used as it was previously, before entering the area 8.

It should be appreciated that the example given herein can be repeated in any environment such as planes and hospitals with consideration being given, at the time of installation of the signal emitting means, to the environment in which the same is to be used.

It is also important to appreciate that the function change of the mobile phone need not be to completely turn off of the mobile phone but may be the disablement of a particular function such as the ringing tone to suit particular environment requirements.

One emitting signal which is believed to be particularly appropriate to this invention is the Bluetooth transmission system wherein the signal emitter can be configured to emit a signal over a range of, say for example, 10-100 metres and of particular strength to suit particular environmental conditions.

Figure 1

